



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To

Attn Of: ECO-083

Informational Memo

Subject: Regional Invasive Species Update #10: April-July 2005

From: Joan Cabreza
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To: R10 ETPA Management Team

ecc: Internal EPA mail group, & interested outside parties

This memo summarizes this quarter's Region 10 EPA Invasive Species (IS) Program activity, but also includes relevant activity occurring nationally and within Region 10 states. I also include related updates or activities of interest from any reader who submits them. Credit for any errors is entirely mine. (Less inclusion of information on AK and ID does not necessarily mean less is happening there...I just have not received much information on their activity.)

EPA Activity, Projects & Initiatives

TMDL Lawsuit Update. In April, 2004, the Ocean Conservancy challenged EPA's approval of California's 303(d) impaired waters list for 2002 as "arbitrary [and] capricious" because the state did not include several waters the group claims are impaired due to the presence of biological pollutants - in this case, invasive species. The dispute will determine whether EPA and states must set total maximum daily loads (TMDLs) for waters affected by exotic species. The case is significant because there is no case law on this issue, and very little case law on biological pollutants in general. EPA has never formally taken a position on whether invasive species are 'pollutants' under the Clean Water Act.

There is currently a Stay of Litigation in the case; plaintiffs agreed to suspend their litigation, and in return EPA requested California to reconsider its decision not to list several waters as affected by invasive species. The Stay will remain in place until September 1, and EPA continues to work with the department of justice to resolve the issue.

Ballast Water Court Decision Update. On April 4, in the latest act of a long dispute between EPA and various environmental groups, a District Court judge ruled that EPA exceeded its authority in exempting ship ballast water discharges from the NPDES permit program, that regulates point source discharges under the Clean Water Act. Several issues relating to the decision are still unclear, and the deadline for submission of additional information to the judge is November 1. After that, the judge will make a final ruling.

Economic Impacts of Invasive Species Workshop. EPA HQ hosted an "Economic Impacts of Aquatic Invasive Species" workshop in Washington, D.C., on July 20-21. The workshop brought together 55 people from various federal agencies and a variety of universities. The goal was to obtain views on potential conceptual frameworks and bioeconomic tools for use in subsequent development of regional and national estimates of the market and non-market economic impacts of aquatic invasive species. Representatives from the Pacific Northwest included Henry Lee (ORD, Newport lab), David Secord (UW) and Joan Cabreza (EPA).

Regional Invasion Pathways Project Update. As part of a historical invasion pathways study, ballast water samples are being collected for genetic analysis from various ships in WA and OR, and DNA of invasive organisms from various west coast estuaries is also being compared to DNA from San Francisco Bay organisms. If WA and OR population DNA are clones of San Francisco organisms, this would indicate they are likely the result of secondary introductions from San Francisco Bay; slight genetic variation would indicate independent introductions. Phase 1 of this project (Great Lakes) has now also received an additional \$300k in funding, allowing an increase in the number of organisms studied from about a dozen to about 100. Preliminary results show relationships between populations in various W Coast estuaries.

Grants Awarded for Invasives. Two Regional Geographic Initiative (RGI) grants were awarded in June; one to the Jamestown S'Klallam tribe for knotweed and butterfly bush control, and one to the U.A.K at Fairbanks to establish an Alaska state invasive species council. A third grant to the Pacific States Marine Fisheries Commission, provides for production of a 90 minute training videotape on boat inspection techniques for zebra mussels.

Advanced Monitoring Initiative. ORD has \$2.5M available to fund monitoring projects, with a possible maximum of \$250K per project. Henry Lee (ORD Newport) has submitted a proposal to fill in the gaps and expand the scope of the Pacific Coast Estuarine Information System (PCEIS) database. The database was originally intended primarily for invasive species, but later was expanded to also include native, cryptogenic and indeterminate species.) A second proposal would use PCEIS to evaluate a multi-scalar metric of estuarine condition and to compare different niche models to predict distribution of various estuarine species. Funding determinations will be made in the next few months. I have agreed to provide some Regional support on it, although it is unclear what that will actually entail. (For more info contact Henry Lee at 503/867-5001)

Water Talk Newsletter. The region is trying to include an invasive species article in each publication of the EPA newsletter. This quarter's newsletter included Elaine Somers' article on Japanese knotweed.

R10 Speeches/Presentations Completed This Quarter:

04/04/05	Soc. for Ecological Restoration conference - Seattle (national/regional update)
05/01/05	Woodland Park Zoo - Teacher's workshop on biodiversity (Basic invasive species)
05/11/05	Corps/EPA National Workshop, Portland, OR (invasive implications for wetlands)
05-19/05	ORD Science forum - Research Triangle Park NC (genetic screening tool)
05/23/05	NEPA Unit retreat – Seattle, WA – (general invasive species)
06/29/05	OR Invasive Species Council - The Dalles, OR (EPA activity update)
07/16/05	Pacific Northwest Economic Region Conf. – Seattle WA (EPA activity update)

Upcoming Presentations:

08/09/05	WA Ballast Water Workgroup – Marrestone Is, WA (genetic screening tool)
10/06/05	PNW SWS conference – Vancouver, WA (invasives and wetland mitigation)
01/19/06	Center for Urban Horticulture - Seattle, WA (Master Gardener education)

Activity in Pacific Northwest States

WA Early Detection and Rapid Response Plan. The state's Aquatic Nuisance Species Committee has completed the draft Early Detection and Rapid Response Plan for aquatic nuisance species in WA. The plan contains tasks to monitor, report, verify and respond to new invaders, and defines the responsibilities of agencies for responding to the invaders. Agencies that manage invasive plants and animals will carry out the plan through a memorandum of

understanding with the Department of Fish and Wildlife. *For more information about the plan, contact Joan Cabreza (206/553-7369).*

WA Prevention Legislation. HB1730, a bill related to preventing and controlling aquatic invasive species and nuisance algae, was passed by the legislature. It establishes and funds an aquatic invasive species prevention account and a freshwater algae control account by imposing additional taxes on boater registrations. *For more information contact Scott Smith at smithsss@dfw.wa.gov*

OR Sea Grant Awareness Survey. Five hundred random people were given a 2-question survey as part of a statewide awareness campaign. The questions attempted to assess how the general public feels about invasive species, and whether they feel the problem is being adequately dealt with. The bottom line: responses indicated the invasive species issue is on most people's radar screen (50% felt it was of great concern), but most felt it was not being dealt with to any great extent. There appeared to be no difference in responses based on gender or age, and there was no indication where people were obtaining their information on the topic. *For more information contact Robyn Deaheim, at draheim@pdx.edu.*

OR Feral Swine. There has been a growing number of feral swine in OR, and they cause a great deal of damage in riparian areas and to ground nesters and crops. Money is needed for helicopter time and ground control. A grant proposal has been submitted to OWEB to fund a devise an eradication program and identify resources.

WA Invasive Species Council Bill. SSB5385, a bill to create a Washington Invasive Species Council, was introduced in the State Legislature in January. Unfortunately, after overcoming many hurdles, it was caught in the House Appropriations Committee and never made it to the House floor for a vote. However, proponents made many strong alliances, improved the proposed legislation through the process, and laid the groundwork for future passage of the bill. It is expected to be reintroduced next session.

WA Aquatic Use Permit. The Washington Department of Ecology is working on development of a general Aquatic Plant and Algae permit that will authorize the use of herbicides for freshwater nuisance and noxious plant control. The permit is targeted for completion around March 2006. EPA and a number of other agencies are involved as members of an advisory group. *For more information, contact Kathy Hamel at 360/407-6562.*

WA ANS Lists. A small subgroup of the ANS Committee is developing several much needed Washington lists: one compiles a list of all the invasives already noted in WA, a second develops a list of "most unwanted" species that are not yet here, and a subset of priority species will be identified from each list, that we will use to target monitoring and/or control efforts. A database that can also be used to track occurrences as organisms are discovered is being set up as well, although we assume at some point this information will be transferred to the USGS and PCEIS databases. We expect draft lists will be available for presentation to the full WA ANS committee at the October meeting, and welcome review by everyone! *If you are interested in commenting on the draft lists when they are available (September 1 or so), contact cabreza.joan@epa.gov.*

ANS Guide to the Columbia Basin. A small group met in Portland on May 31 to discuss the idea of a guide to aquatic nuisance species of the Columbia Basin. We discussed the concept of improving awareness of the ANS species that already exist in the Columbia Basin, priority audiences, format options, priority species to emphasize, and a timeline and assignments. We hope to have a draft guide available for comment this fall. This is being organized by Paul Heimowitz of USFWS. *Contact him at 503/872-2763 for more information.*

Ballast Water Treatment Updates. Russell Herwig (UW Sea grant Program) and his team are involved in planning to install a shipboard ozone treatment system on an Alaska Tanker Company vessel, the *Prince William Sound*, this fall and in 2006. A prototype system was previously installed and tested on the *Tonsina*. The team also performed a set of experiments at the USGS Marine Field Station on Marrowstone Island using the Severn Trent De Nora Filtration / Chlorination System (STDN), which uses an electrolytic hypochlorite generator to treat ballast water. STDN is hoping to install their treatment system on a ship and have UW evaluate the efficacy of the shipboard system.

Herwig also hosted a meeting at UW in June to update interested parties on the status of shipboard experiments of SeaKleen. The meeting included the SeaKleen® inventors, vendor, WA state agency representatives, and UW and University of Maryland scientists. Progress is being made, but there are some gaps in research that would be need to

be completed before a shipboard test is conducted in Puget Sound. (*For more information contact Russ Herwig at herwig@u.washington.edu*)

New OR Ballast Water Legislation. On May 3, amendments to the OR ballast water law were passed by the OR legislature. The main provision modifies the coastal ballast water exchange requirement, bringing OR into line with other coastal states, British Columbia and AK.

Columbia River Survey: The Lower Columbia River aquatic nuisance species survey has been completed, and PSU and UW are moving the survey up-river into the middle stem of the Columbia and the lower Snake River. Thanks to USFWS funding, the survey will extend from the Bonneville Dam up to Priest Rapids and the Lower Granite dams. Sampling began early this summer, and focuses on zooplankton, benthic invertebrates and aquatic plants. (*Contact Robyn Draheim for more info at 503/725-4994*)

AK Field Guide. Dave Secord and Kristin Hemmelgarn of UW have developed an Invasive Species Field Guide for Alaska Fish and Wildlife. The plasticized field guide for Washington State, released in Fall, 2004, was used as a model. (*Contact Bob Piorkowski, ADFG, for more info or copies of the guide at 907/465-6109*)

OR/ID Boat Inspection Program. A boat inspection work plan is being developed for CA, OR and ID. The work includes compiling a listing of all agencies, organizations and groups having access to trailered boats; development of a training/education curriculum for portable inspection training programs; and completion of two training workshops that will produce 50-100 trainers who will then be able to train others in their work units. (*Contact Paul Heimowitz, 503/872-2763 for more information.*)

Internet Guide to Estuarine Exotics. Andy Cohen at the San Francisco Estuary Institute has launched an internet-based guide to exotic organisms that should be a useful resource for educators, researchers and others. It currently contains photographs, descriptions and ecological information on several common San Francisco Bay invaders, but he plans an expansion to include additional species from San Francisco Bay and elsewhere on the Pacific Coast. The first stage of the guide can be reviewed at <http://www.exoticguide.org>.

National Happenings

Canadian Ballast Water Regulations. August 25 is the deadline to comment on Transport Canada's proposed BallastWater Control and Management Regulations. The regulations prescribe how ships bound for Canadian ports must manage their ballast water. Ships will be required to exchange their ballast water at least 200 miles from shore and in waters having a depth of 2,000 metres or more before entering Canadian waters. *For information, access <http://canadagazette.gc.ca/partI/2005/20050611/html/regle6-e.html>.*

IMO Meeting: The recent London meeting of the International Maritime Organization adopted two important guidelines: [1] Approval of "type approval guidelines" (those used to prove treatment equipment can meet the discharge standards) (which drew heavily from EPA ETV guidelines). They require testing at a land-based facility and then testing on-board an actual ship to show the treatment really works. The US feels this is a good thing (if flag states choose to play by the rules), and a major step forward. [2] Approval of BWT systems using biocides. These treatment systems all need some disinfection agent to reach the microbial standard. The IMO treaty has a provision saying systems require international (IMO) approval, as opposed to flag state approval

BLM Vegetation Management Final EIS. The Bureau of Land Management recently published two useful documents: the Programmatic EIS on Vegetation Treatment Using Herbicides, and the Vegetation Treatments Programmatic Environmental Report. The EIS addresses BLM's use of herbicides on the public lands it administers in the western US, including Alaska. The Environmental Report describes the environmental impacts of using non-herbicide treatment methods, including fire, mechanical, manual and biological controls. *Review the documents at www.blm.gov*

USFS Regional Invasive Plant FEIS. The U.S. Forest Service has finalized the Region 6 (Pacific Northwest) Final EIS on invasive plant management. It contains a very comprehensive treatment of invasive plants, including prevention practices, early detection, monitoring, restoration, treatment options, and risk assessments of herbicides and herbicide impacts, as well as economic projections of different control methods, and what potential costs could be if management efforts are postponed. This is a good resource! The four big issues were (1) weed-free mulch

inwilderness areas, (2) road maintenance and scheduling, (3) vehicle washing, and (4) herbicides (12 were analyzed for risk). Although it addresses riparian areas, it does not deal with aquatic plants. This will remove the old 1988 Record of Decision and stop or limit use of some of the more damaging herbicides. *View the EIS at <http://www.fs.fed.us/r6/invasiveplant-eis/>*

New Legislation. A number of new bills were introduced in the last few months that relate to invasive species. Some appear to receive a great deal of attention, while other lay dormant. These include:

* **National Invasive Species Bill.** SB363, the “Ballast Water management Act of 2005” was introduced in Congress in February. It would require ballast water management plans, record books and volumetric exchange requirements. *(This has been getting a lot of attention.)*

* **National Invasive Species Act Reauthorization.** On April 13, the National Aquatic Invasive Species Act of 2005 was introduced in Congress. This legislation would reauthorize and strengthen the National Invasive Species Act of 1996. The bill provides for rapid response when new invaders are discovered, for controlling those species that are established in our waters, and for researching pathways of introduction as well as prevention and control technologies. *(For latest info contact Allegra Cangelosi (202/464-4007))*

* **National Ocean Policy Bill.** On June 9, 2005, S1224 was referred to the Committee on Commerce, Science, and Transportation. Title VII of the bill addresses Nonindigenous Aquatic Nuisance Prevention. Subtitle A addresses ballast water management. The ballast water requirements in S1224 duplicate those in S363. Other subtitles address Early Detection; Rapid Response; Control and Outreach, Aquatic Invasive Species Research, Coordination, Prevention and Control of Aquatic Invasive Species Dispersal. See the details at <http://thomas.loc.gov/> *(The ballast water portion MAY have been pulled out of this, since SB363 already addresses ballast water.)*

* **National IS Council Bill.** SB507 was introduced to, among other things, establish the National Invasive Species Council. The Council has been operating for several years, of course, but it was established pursuant to Executive order (EO13112), and as such, has no legislative basis. *(This bill died; I am unsure why.)*

* **Clean Water Act Amendment.** EPA, which administers the Clean Water Act, has repeatedly indicated that NPDES permits are not required when pesticides are applied to water in compliance with the Federal Insecticide Fungicide and Rodenticide Act (FIFRA). Yet confusion still exists. HR1749 (the “Pest Management and fire suppression Flexibility Act”) would amend the CWA and clarify that pesticides applied in compliance with FIFRA are not “wastes”, but are performing their intended uses. On June 20, a companion bill, SB.1269 was introduced in the U.S.Senate. *(This bill appears to be moving)*

* **HR xxx. Aquatic Invasive Species Research Act.** The Aquatic Invasive Species Research Act has been re-introduced. The legislation, which passed the Science Committee in the previous Congress, would establish a comprehensive research program to support federal, state and local efforts to combat aquatic invasive species. The program would focus on developing methods to prevent non-native species from entering U.S. waterways, as well as methods to detect, control and eliminate such species once they have invaded our waters. *(There does not appear to be much action on this bill at this time.)*

International Marine Bioinvasion Conference. The fourth bioinvasion conference will be held at Victoria University in Wellington, New Zealand on August 24-26, 2005. Meeting topics include ecological and evolutionary effects of marine invasions, transport vectors and patterns of dispersion, ecosystem and economic impacts, and education and outreach initiatives.

The 4th New Zealand Mudsail Conference will be held on August 16-18, 2005, at Montana State University, in Bozeman, MT. See <http://www.esg.montana.edu/aim/mollusca/nzms/con4.html> for more information.

International Conference on Aquatic Invasive Species The 14th International Conference on Aquatic Invasive Species is being hosted by the US Geological Survey in Key Biscayne, Florida, on May 14–19, 2006. September 16 is the deadline for submitting abstracts.

Ballast Water Technology Competition. The 2006 competitions run by the federal Ballast Water Technology Demonstration Program (BWTDP) were announced in the Federal Register (70 FR 37766) on June 30, 2005. A copy

of the announcement can be found at the BWTDP website:

<http://www.nsgo.seagrant.org/research/nonindigenous/ballast>. A full listing of NOAA grant announcements is also available at <http://www.grants.gov>.

Species-Specific Projects & Updates

Tamarisk Legislation: H.R.2720, a bill regarding the assessment and the control of salt cedar (tamarisk) and Russian olive was introduced to the House and referred to the Committee on Resources and the Committee on Agriculture on May 26, 2005. With taproots that can reach 100 feet, *Tamarix* is responsible for the demise of many streams in arid lands. (View the entire bill at <http://thomas.loc.gov/cgi-bin/query>)

Spartina. Two OR populations of *Spartina alterniflora* (cordgrass) were recently found during routine early detection surveys in the Coos Bay and Siuslaw River estuaries. Both are very small infestations which have not produced inflorescences. The Siuslaw River site appears to be regrowth from a previous infestation, thought eradicated in 1997 after mechanical & chemical control measures and three years of monitoring. The Coos Bay infestation appears to be linked to the Siuslaw site; plugs of *Carex* and *Scirpus* were transplanted (around 1994) from the Siuslaw to the Coos Bay site as part of mitigation plan, and *S. alterniflora* rhizomes were probably unintentionally introduced with these native plant materials. Both sites will be controlled through manual digging in mid to late August. Photos and a full summary of these two populations are available at: <http://web.pdx.edu/~vhoward/spartina/>. (Vanessa Howard, PSU)

Himalayan Blackberry Rust. A new rust (*Phragmidium violaceum*), which has been used as a biocontrol in Chile, New Zealand, and elsewhere, has appeared in Coos and Curry Counties, OR. The source of introduction is unknown, but the rust is spreading rapidly, and some sources believe it will spread throughout WA and OR within a couple of years. It currently affects only Himalayan blackberry, itself an invasive, and in Australia it has been shown to reduce blackberry biomass by 50% after a couple of years. No effects have been noted yet on related desirable species, such as raspberries, but an interagency task force has been organized to set up tests to determine host specificity and track its impact. There is “cautious optimism” that it will be a good thing.

Nutria. WDFW is trying to eradicate a population of Nutria in Skagit County, WA. This is the first time in over 60 years that nutria have been found in Skagit County. However, as this project has moved forward there have been several reports of nutria in counties south of Skagit. Anyone seeing nutria anywhere in Washington the past several months should contact Pam Meacham at WDFW (360/407-2741).

Mitten crabs. USFWS has posted a request for proposals to implement priorities in the National Management Plan for the Genus *Eriocheir* (Mitten Crabs). Proposals were due on June 17, 2005. Details are available at: http://www.fedgrants.gov/Applicants/DOI/FWS/FWS_RI/ANS-01/listing.htm

Puget Sound Tunicate. In October, a small patch of the invasive colonial tunicate, *Didemnum lahillei*, was discovered in Edmonds Marine Park. This species currently covers many square miles in the Georges Bank in the Atlantic, and poses a huge risk to the marine environment. A state Tunicate Response Advisory Group was formed in November, and the tunicate colony was ultimately destroyed. But other colonies have now been located elsewhere in the Sound, and there is some question as to how long it has been quietly growing here. It is apparently abundant in southern BC, and in some oyster beds in the south Puget Sound. A second invasive tunicate *Styela clava* has been found in Blaine marina.

The Russell Family Foundation and WDFW have provided some funding for Washington Sea Grant Program to train divers on tunicate identification and reporting at a series of workshops around the Sound. Over 2000 tunicate identification cards have been printed and are being distributed at workshops and through dive shops. The first of several Puget Sound workshops was held in Shelton on April 6. Other workshops have been held in Everett, Anacortes and Port Townsend. Future workshops are planned for the Seattle-Tacoma area and north Sound. See <http://www.pnwscuba.com/critterwatchers/invasive.htm> for pictures of the invasive tunicates. For more information, contact Simon Geerlofs at sigee@u.washington.edu or Andrea Copping at acopping@u.washington.edu. View the diver reporting form and more information at wsg.washington.edu/research/ecohealth/divers.html

Zebra Mussel Response Plan. The Western Regional Panel has contracted for development of a Zebra Mussel Rapid Response Plan for the Columbia River Basin. It is expected to summarize rapid response tools available;

contain sections on tools that work in different types of water bodies; clearly list which agencies need to be involved and their regulatory authorities; give examples of successful early eradication; and give specific instructions to particular states, such as those affected by the *Headwaters vs. Talent* decision in the Ninth Circuit Court. (Contact Tina Proctor, USFWS, at 303/236-4515 for more information.)

New WA Moth and Wireworms. A new moth, likely *Noctua pronuba*, has been found in WA. It is a significant pest species that has quickly spread from the east coast across North America in recent years. Its arrival may explain the unusually heavy cutworm damage this year. Both caterpillars and moth are quite large.

Two new click beetles have also been found that are significant crop pests elsewhere. One has caused 40% loss for an organic grower up north. The wireworms (larvae) live several years in the soil, and are worse on plantings that follow removal of pasture or sod; when the sod is removed they have no roots to feed on and they migrate to any root they can find. WSDA obtained enough money for traps and pheromones, but not enough to pay for trappers to survey for wireworms. The King County Extension Agent received special permission to involve King County Master Gardeners in a pilot survey for the exotic wireworms *Agriotes lineatus* and *A. obscurus*. Gardeners received training on how to set the wireworm traps (each with a different pheromone) and record the data. (One trap caught 90, then 425 insects, and continues to get beetles.) This is a new way for Master Gardeners to help the State Department of Agriculture; volunteers have not been used in such programs with WSDA before. For more info contact Sharon Collman at 206/553-0038.

Ivy Removals. As of July, this year EarthCorps worked with nearly 4,300 Volunteers who removed more than 15 Acres of Invasive Plants, including 6.5 Acres of English Ivy, and installed over 2,000 Survival Rings around ivy-covered trees. (EPA assisted in 4 or 5 ivy pulls last year, and if I can find some free time to organize, I'll try to get some more EPA ivy removal trips planned with EarthCorps for this fall. Or better yet, anyone want to volunteer to organize one?)
